

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named	
Inventor : Chu	
Appln. No.: 10/762,060	Group Art Unit: 2626
Filed : January 21, 2004	
For : SEGMENTAL TONAL MODELING FOR TONAL LANGUAGES	Examiner: Paras D. Shah
Docket No.: M61.12-0594	

## INTERVIEW SUMMARY

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The undersigned conducted a telephonic interview with Examiner Shah on March 19, 2009. Claims 1 and 6 were discussed with respect to the Chen reference, U.S. Patent No. 5,751,905. All references to the pending application will refer to the published version at U.S. Patent Publication No. 2005/0159954.

In particular, Ms. Lauer pointed out that with respect to claim 1, referring to Applicant's FIG. 5, Chen teaches that a pitch contour describes the pitch, which is a measurable quantity and varies with respect to time. Four of the five pitch contours recognized in Mandarin Chinese are illustrated in FIG. 5 as tones 1 through 4. Each of these contours is a continuous line or curve. There is no suggestion in Chen or the prior art to break up a final part of a syllable into different time-wise portions, and assign

to each of those portions a discrete categorical level of pitch, as claimed. Even if one were to decompose a pitch contour into different temporal portions, for most of these tones, the pitch would be changing within each of these portions, as described by the slope or tangent of the line or curve. Thus, even within a small span in time, the pitch is constantly changing. It is only the applicant's disclosure that teaches representing this constantly changing pitch by a proxy that is an unchanging, constant, discrete categorical level value. Accordingly, the association of a discrete categorical level associated with each of these temporal portions is taught by the present application and would not have been suggested by the prior art. Thus, Chen does not teach a system where a syllable is modeled having a final part comprising first and second portions, wherein each portion has a categorical pitch level associated with it, as claimed in independent claim 1.

Examiner Shah suggested that the terminology "predefined categorical level" could be used to further clarify the categorical level. However, the Applicant does not agree that such an amendment is necessary and does not see how such amendment would further distinguish the claims. Examiner Shah suggested that the "rising" pitch of Chen could be considered to have a first portion at a low level and a second portion at a high level. First, only the Applicant's disclosure teaches breaking up the final part of the syllable into first and second time-wise portions. Such first and second portions would therefore not be suggested to one of ordinary skill with knowledge of Chen. Then, Examiner Shah argued that even though the first portion of Chen would be constantly rising, it would still be at a "low" level compared to the second portion, which would be constantly

rising at a "high" level. Secondly, only the Applicant's disclosure teaches representing such constantly changing pitch by a proxy that is an unchanging, constant, discrete categorical level value. It is only by virtue of Applicant's teachings that the Examiner has interpreted Chen in this manner. The Applicant respectfully submits that it is an unreasonable interpretation to say that a changing pitch value, as in Chen, meets the feature of "a level," as recited in the claims. By definition, a "level" is an extent, measure or degree. *Random House Dictionary* (2009). A changing value cannot be considered to be associated with "a level."

Further, as to claim 6, the Office Action at page 5 states that Chen "teaches wherein the different levels of pitch comprises five categorical levels (see col. 4, lines 33-35, five types of tones), and wherein each portion has a categorical level associated with it (see col. 4, lines 10-15, pitch varies with time and represents a pitch contour. The contour consist of different level or values with respect to time)." The Applicant respectfully submits that the categorical levels are not analogous to Chen's five tone types. As described in ¶[0058] of the present application, using five categorical levels with the five Mandarin Chinese tones, a single tone 4 could be represented by several different level representations, for example, "5-1, 5-2 or 4-1." Thus, the five categorical levels are clearly distinguishable from the five tone types of Chen. Moreover, even if the five tones of Chen were read to meet the limitation of the five categorical levels, it would not satisfy the feature of the first and second portions of the final part of the syllable each having a categorical level associated with it. That is because each of the tone types

of Chen describes the tone for the entire syllable. (Chen, column 4, lines 8-13).

No agreement was reached with regard to the claims or arguments.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: /Mai-Tram D. Lauer/  
Mai-Tram D. Lauer, Reg. No. 43,589  
900 Second Avenue South, Suite 1400  
Minneapolis, Minnesota 55402  
Phone: (612) 334-3222 Fax: (612) 334-3312

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